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CLAIMS

(57) [Utility model registration claim]

[Claim 1] By connecting a curtain piece (2A) free [rotation] mutually, constituting a curtain (2), and going up and down the edge of this curtain piece (2A) along with a guide rail (3) A bridge is constructed in the lock member (6) which is located in the above-mentioned guide rail (3), and consists of a refrangible elastic member between ***** curtain pieces (2A) in the electric shutter which opens and closes the above-mentioned curtain (2). While equipping the refraction part of this lock member (6) with a lock pawl (7), it corresponds to the above-mentioned lock pawl (7). The safety device of the electric shutter characterized by constituting so that the above-mentioned lock member (6) may be made crooked and a lock pawl (7) can stop in the above-mentioned hook section (8), when the hook section (8) is fixed and prepared in the above-mentioned guide rail (3) and mutual spacing of a curtain piece (2A) is reduced.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed explanation of a design]

(Field of the invention on industry)

This design is related with the safety device of an electric shutter using the slat curtain known mainly as a lightweight shutter.

(Prior art)

This kind of electric shutter connects a curtain piece mutually through direct (slat type curtain) or a link (grill type shutter), and constitutes a curtain, and it is closing [are and] it made to open the above-mentioned curtain by going up and down the edge of this curtain piece along with a guide rail. In such an electric shutter, when it has the brake mechanism for the shutter to the motor of a winding means and the shutter is closed, even if it is going to open in the shutter lower part, applying a hand, the device which prevents this is made. (Technical problem which a design tends to solve)

However, the curtain piece which constitutes a curtain is the refrangible spatial allowances within a guide rail, with [of a curtain piece mutual connection part] backlash, etc., and has the adjustable amount which can be expanded and contracted in the rise-and-fall direction. For this reason, if it will raise in the lower part of a shutter, applying a hand even if the brake mechanism worked and it has controlled rise and fall of a curtain, with an above-mentioned movable amount, extent of ***** and the shutter lower part will be opened and the insurance on crime prevention will be threatened.

Then, although using a locking means which is adopted by the manual system shutter is also considered, if a motor tends to be driven in the state of locking and it is going to raise a curtain accidentally, there is risk of destroying a locking means and a shutter, and it is not desirable.

(The object of a design)

This design was made based on the above-mentioned situation, it is in the condition which took down the curtain, and when pulling up a curtain from the upper part to normal, it tends to offer the safety device of the electric shutter of which the above-mentioned lock condition was canceled automatically, while a curtain will be in a lock condition and enabling it not to make it go up, even if it is going to lift a curtain from the bottom.

(The means for solving a technical problem)

By for this reason, the thing for which a curtain piece (2A) is connected free [rotation] mutually, and a curtain (2) is constituted from this design as clarified also in the example of a graphic display, and it goes up and down the edge of this curtain piece (2A) along with a guide rail (3). A bridge is constructed in the lock member (6) which is located in the above-mentioned guide rail (3), and consists of a refrangible spring material between ***** curtain pieces (2A) in the electric shutter which opens and closes the above-mentioned curtain (2). While equipping the refraction part of this lock member (6) with a lock pawl (7), it corresponds to the above-mentioned lock pawl (7). When the hook section (8) is fixed and prepared in the above-mentioned guide rail (3) and mutual spacing of a curtain piece (2A) is reduced, it constitutes so that the above-mentioned lock member (6) may be made crooked and a lock pawl (7) can stop in the above-mentioned hook section (8).

(Operation)

Even if it is going to apply a hand to the lower part of a curtain and is going to raise a curtain, therefore, by this thing [that raise and a lower curtain piece (2A) approaches relatively to an upper curtain piece (2A) by the force] A lock member (6) is refracted, since it moves to the location which can stop the lock pawl (7) in the hook section (8) within a guide rail (3), even if it goes up a little, the above-mentioned lock pawl (7) is promptly stopped by the hook section (8), and lifting of a curtain is prevented. Sufficient result on crime prevention is expectable with this. Moreover, when pulling up a curtain using a motor, it deserts relatively to a lower curtain piece (2A), for this reason a lock member (6) is ****(ed), and that refraction condition is canceled because an upper curtain piece (2A) goes up. For this reason, since a lock pawl (7) separates from the hook section (8) and in above-mentioned lock condition is canceled automatically, destruction of a curtain etc. and breakage are not

brought about.

(Example)

Hereafter, one example of this design is concretely explained with reference to a drawing. The electromotive shutter is shown here and it is making the structure of a slat curtain. Here, the curtain 2 is formed in winding and a winding means (not shown) to rewind, by the motor in the shutter case 1, and the curtain 2 drawn from this shutter case 1 is guided in ends at the guide rail 3 of a channel form, and can descend to a closeout condition. The above-mentioned curtain 2 consists of combination of curtain piece 2A of the shape of a slat formed in the cross-section configuration predetermined by extrusion molding etc., and the above-mentioned curtain piece 2A possesses connection marginal 2B and 2C of the letter of curl by which connection engagement is carried out mutually. And the ends of the above-mentioned curtain piece 2A are inserted in the interior of the above-mentioned guide rail 3, and have achieved the role of advice of rise and fall of a curtain 2. Especially, in this example, the pivotable support brackets 4 and 4 are attached in the ***** curtain pieces 2A and 2A chosen at least, respectively, and the pivotable support pins 5 and 5 are attached in this. And the lock member 6 of a cooking [consist of ingredients which have the elasticity of some, such as a product made from plastics, and] typeface is making the above-mentioned brackets 4 and 4 support the vertical ends pivotably through the above-mentioned pivotable support pins 5 and 5. It is located in that refraction part, the lock pawl 7 is formed or attached in this lock member 6, and the hook section 8 is formed in the above-mentioned guide rail 3 corresponding to this.

The side is made to push out to the location which mutual spacing between upper curtain piece 2A will become small if a ridge hits a floor line when a curtain 2 is descended with such a configuration and it changes into a close-by-pass-bulb-completely condition, lower curtain piece 2A pushes up by reaction force and the force is received (refer to drawing 4), the lock member 6 is refracted, and can engage the lock pawl 7 with the hook section 8. Of course, the closeout condition of a curtain 2 may be maintained in the state of extent to which a ridge only hits a floor line. At this time, predetermined mutual spacing is maintained between curtain piece 2A and 2A (refer to drawing 5).

However, it would apply to the curtain 2 bottom and will raise, when a curtain 2 tends to be lifted by whether you are whom irregular, as shown in drawing 4 , it will reduce to relative spacing between the curtain piece 2A and 2A by the force, in the condition, if it goes up a little, the lock pawl 7 will engage with the hook section 8 instantly (refer to drawing 6), and lifting of a curtain 2 is barred. For this reason, a clearance effective in the curtain 2 bottom is not produced substantially, and the crime prevention effectiveness can fully be demonstrated.

Moreover, when driving and winding up a motor, using a means like normal and raising a curtain 2, it becomes the form where upper curtain piece 2A ***** (ed) lower curtain piece 2A, and relative spacing is elongated (refer to drawing 5), and since the lock pawl 7 retreats and cancels engagement in the hook section 8 (refer to arrow head), it can perform smooth shutter disconnection actuation.

Of course, this design is in addition, applicable, although the case of a slat curtain is raised with the above-mentioned example as a configuration of a shutter also to the curtain of a configuration so that between this crosspiece may be connected by the link like a grill shutter, using a crosspiece as a curtain piece. In this case, the flexible good mechanical moment of mutual spacing between curtain pieces becomes settled by the play of a link and a crosspiece, and the play within a guide rail.

(Effectiveness of a design)

It came to have explained in full detail above, it is in the condition which took down the curtain and a lock member is refracted by the cutback of spacing between curtain pieces which is more nearly up than there even if it is going to raise on a curtain, applying a hand etc., and since a lock pawl will be in the condition that it can engage with the hook section in a guide rail, this design can prevent a pull-up of a curtain substantially, and can demonstrate the crime prevention effectiveness. And when raising a curtain by the method of normal, automatically, a stop of a lock pawl is canceled and does not bring trouble to the switching operation of a curtain.

[Translation done.]

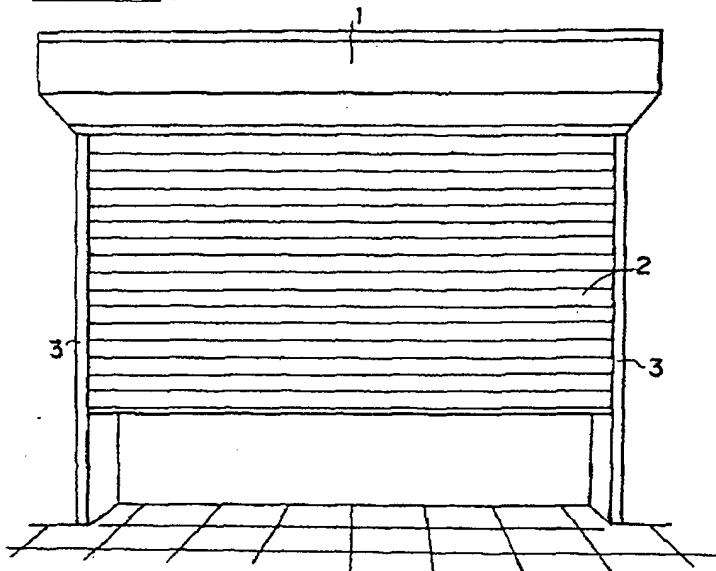
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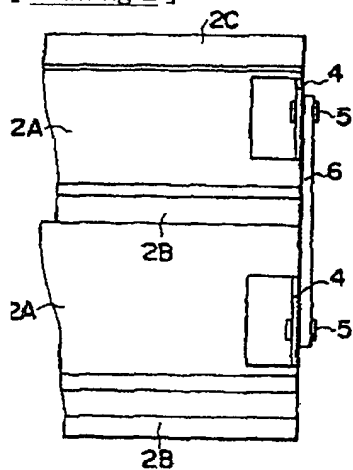
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DRAWINGS

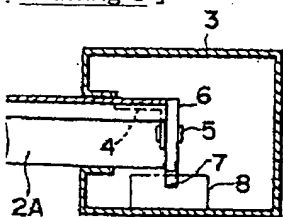
[Drawing 1]



[Drawing 2]



[Drawing 3]



[Drawing 4]

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(56)参考文献 実開 平2-40371 (J P, U)

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(54)【考案の名称】 電動シャッターの安全装置

1

(57)【実用新案登録請求の範囲】

【請求項1】カーテン片(2A)を互いに回動自在に連結してカーテン(2)を構成し、該カーテン片(2A)の端部をガイドレール(3)に沿って昇降することで、上記カーテン(2)の開閉を行なう電動シャッターにおいて、上記ガイドレール(3)内に位置して相隣るカーテン片(2A)間に屈折可能な弾性部材よりなるロック部材(6)を架橋し、該ロック部材(6)の屈折個所にロック爪(7)を備えると共に、上記ロック爪(7)に対応して、上記ガイドレール(3)内にフック部(8)を固定して設け、カーテン片(2A)の相互間隔が縮小される時、上記ロック部材(6)を屈曲させてロック爪(7)が上記フック部(8)に係止できるように構成したことを特徴とする電動シャッターの安全装置。

【考案の詳細な説明】

2

(産業上の利用分野)

本考案は、主として軽型シャッターとして知られるスラットカーテンを用いた電動シャッターの安全装置に関するものである。

(従来の技術)

この種の電動シャッターは、カーテン片を直接(スラット式カーテン)、あるいはリンクを介して(グリル式シャッター)、互いに連結してカーテンを構成し、該カーテン片の端部をガイドレールに沿って昇降することで、上記カーテンの開閉を行なうようにしている。このような電動シャッターにおいては、シャッターを巻上げ手段のモータに対してブレーキ機構を備えていて、シャッターを閉じている時、シャッター下部に手をかけて開放しようとしても、これを阻止する工夫がなされている。

相対的な間隔は伸長され（第5図参照）、ロック爪7は後退して、フック部8との係合を解除してしまうから（矢印参照）、スムーズなシャッター開放動作ができる。

なお、上記実施例では、シャッターの構成としてスラットカーテンの場合をあげているが、この他、グリルシャッターなどのようにカーテン片として横棧を用い、この横棧間をリンクで連結するような構成のカーテンに対しても、本考案を適用できることは勿論である。この場合、リンクと横棧との遊び、ガイドレール内での遊びに

よって、カーテン片間の相互間隔の伸縮可動量が定まる。

（考案の効果）

本考案は以上詳述したようになり、カーテンを降ろした状態で、カーテンに手をかけて持ち上げようとして *

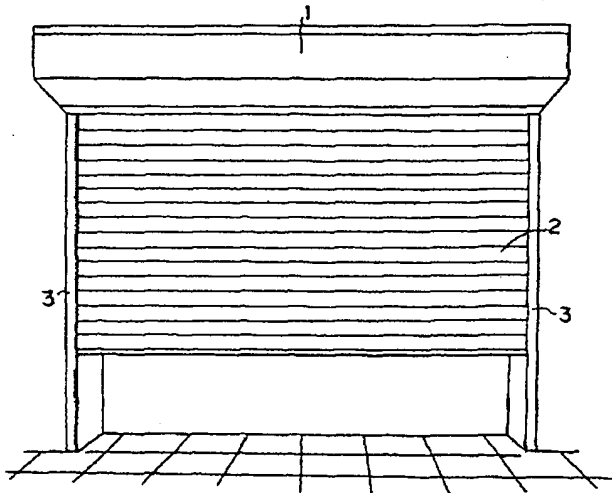
も、そこより上方にあるカーテン片相互の間隔の縮小などでロック部材が屈折し、ロック爪がガイドレール内のフック部に係合できる状態になるから、実質的にカーテンの引上げを防止でき、防犯効果を発揮できる。しかも、正規の仕方でカーテンを上昇させる時には、自動的にロック爪の係止は解除され、カーテンの開閉操作に支障をもたらさない。

【図面の簡単な説明】

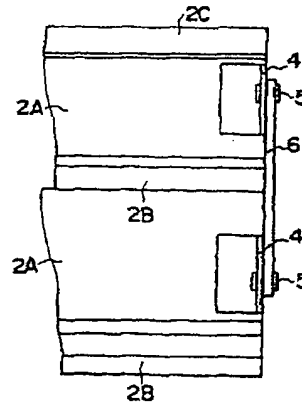
第1図は本考案の一実施例を示す概略正面図、第2図は要部の拡大正面図、第3図は同横断平面図、第4図ないし第6図はフック部に対するロック爪の状態を示す側端面図である。

2……カーテン、2A……カーテン片、3……ガイドレール、6……ロック部材、7……ロック爪、8……フック部。

【第1図】

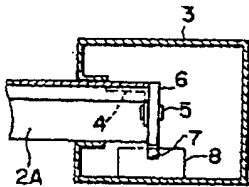


【第2図】

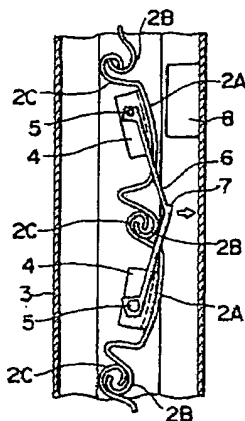


【第6図】

【第3図】



【第4図】



【第5図】

